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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,958	10/22/2001	Roger L. Clark	VII2-US	3965

24222 7590 07/25/2003

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EXAMINER

KINKEAD, ARNOLD M

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,958

Applicant(s)

CLARK ET AL.

Examiner

Arnold M Kinhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-10, and 12,13,14, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: *Handwritten signature*

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The controller electronics and processing circuitry are recited in this new claim; however, there is no description of such controller electronics or processing circuitry to evaluate their function in the circuit.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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2. Claims 1-5, 7,8 and 22 (as best understood)are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al(US 5,917,272 cited by applicants, of record)

The reference by Clark et al discloses an encapsulated temperature controlled resonator and oscillator circuit, see figures 2 and 4, with package enclosure(48) with pins extending from said side walls, thermal conductive substrate(28,ceramic), a (BAW(14) or SAW(see last paragraph, col. 3) resonator coupled to the substrate(28); this may be directly or by way of clips(24,26). Another substrate is shown (30) for connecting with the rest of the oscillator. Note external pins that connect with other circuit elements outside package enclosure(see figure 5);please note that package enclosure has top, floor and side walls . Heating element(40) and glass insulation posts are shown(32.1,32.2), Note interconnects (wires) connecting the thermal conductive substrate(28) and second substrate(30) as well as pins(50.1,50.2). A temperature sensor(49) is part of the temperature controller circuit.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time

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any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 6,9,10,12,13, 14, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al(US ' 272) in view of Clark et al (IEEE Frequency Control Symposium, 1996).

The reference by Clark et al discloses an encapsulated temperature controlled resonator and oscillator circuit, see figures 2 and 4, with package enclosure(48) with pins extending from said side walls, thermal conductive substrate(28,ceramic), a (BAW(14) or SAW(see last paragraph, col. 3) resonator coupled to the substrate(28); this may be directly or by way of clips(24,26). Another substrate is shown (30) for connecting with the rest of the oscillator. Note external pins that connect with other circuit elements outside package enclosure(see figure 5);please note that package enclosure has top, floor and side walls. Heating element(40) and glass insulation posts are shown(32.1,32.2), Note interconnects (wires) connecting the thermal conductive substrate(28) and second substrate(30) as well as pins(50.1,50.2). A temperature sensor(49) is part of the temperature controller circuit.

The reference does not describe a vacuum sealed enclosure, however, the reference by Clark et al(IEEE) does highlight the advantages of such encapsulation(see abstract), for example, it provides a stable environment for the resonator, and thus enhances frequency stability. The reference does not show a hood over some of the circuit elements that may be temperature sensitive. With regards the use of oven hoods, these are

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conventional in the art and are notoriously well known to one of ordinary skill in the art for enhancing the operation of temperature sensitive elements.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the encapsulated oscillator of Clark et al(' 272) may derive even more frequency stability if the conventional vacuum enclosure is made use to reduce environmental stresses and thus optimize the stability of such an oscillator. This being highlighted in the Clark et al (IEEE) disclosure. The hood element is also a conventional idea for use with temperature sensitive elements to enhance their operation in temperature controlled environs.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-10, 12-14, 21 and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 5,917,272 in view of (IEEE Frequency Control Symposium, 1996) of record.

The claims in the present application are merely broader in scope, including patented encapsulated temperature controlled resonator and oscillator circuit, see figures 2 and 4, with package enclosure(48) with pins extending from said side walls, thermal conductive substrate(28,ceramic), a (BAW(14) or SAW(see last

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paragraph, col. 3) resonator coupled to the substrate(28); this may be directly or by way of clips(24,26).

Another substrate is shown (30) for connecting with the rest of the oscillator. Note external pins that connect with other circuit elements outside package enclosure(see figure 5) please note that package enclosure has top, floor and side walls. Heating element(40) and glass insulation posts are shown(32.1,32.2), Note interconnects (wires) connecting the thermal conductive substrate(28) and second substrate(30) as well as pins(50.1,50.2). A temperature sensor(49) is part of the temperature controller circuit.

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In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the encapsulated oscillator of Clark et al(' 272) may derive even more frequency stability if the conventional vacuum enclosure is made use to reduce environmental stresses and thus optimize the stability of such an oscillator. This being highlighted in the Clark et al (IEEE) disclosure. The hood element is also a conventional idea for use with temperature sensitive elements to enhance their operation in temperature controlled environs.

Allowable Subject Matter

8. Claims 15-20 are allowed.

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9. Claims 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 05-02-03 have been fully considered but they are not persuasive. The examiner has considered applicants remarks about the lack of a second substrate...but taking a second look at figure 5, the enclosure does include the second substrate (30) inside albeit not affixed to the interior surface of the package floor. The double patenting rejection is maintained in light of the response to the arguments.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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The examiner may be contacted at 703-305-3486, Mon- Fri, 8:30 am - 5 pm.

If unavailable, the examiner's supervisor, Mr. Robert Pascal may be reached at 703-308-4909.

Arnold Kinhead

A handwritten signature in black ink, appearing to read 'Arnold Kinhead', written in a cursive style.

Primary Examiner(2817)